

2013 Old River at Bivens Vegetation Control Plan

LDWF, Inland Fisheries

Old River was impounded with the construction of a low earthen dam across an inactive river scar channel on the east bank of the Sabine River in western Beauregard Parish. The surrounding riparian zone consists primarily of bottomland hardwoods with cypress/tupelo swamps interspersed throughout. Many shorelines are fringed with buttonbush and other terrestrial plants. It is a small, sheltered impoundment that creates excellent habitat for salvinia growth.

Water body Information

Waterbody Type:

Impounded scar channel of the Sabine River. The lower quarter of the waterbody is below the dam and is not impounded.

Parish/Location:

Beauregard Parish near Bivens.

Date Created:

Unknown, formed by natural geologic processes when Sabine River changed course.

Size (surface acres):

Upper section (impounded) 275 acres

Lower section (natural) 100 acres

Watershed Ratio:

Approximately 177:1

Impoundment:

1940's

Water Control Structures:

None

Ownership:

State of Louisiana owns the water bottom and the LA Department of Wildlife & Fisheries manages the fish and wildlife resources.

Pool stage:

N/A

Average Depth - 8 feet

Stakeholders:

Camp owners and recreational fishermen; LDWF usually receives annual complaints regarding common salvinia.

Past Control Measures:

Biological:

Common salvinia weevils were stocked at two sites in summer 2007. This stocking was ineffective as no long term control was provided. Damage from salvinia moths has been observed, but no effective control was provided.

Chemical:

Traditional control measures for aquatic vegetation in this area have consisted of diquat and glyphosate applications for common salvinia control. Recent use of Imazapyr has proven effective in areas with access (see limitations).

Table 1. Historical treatment measures on Old River.

Target Plants	Herbicide	Rate (gal/acre)	Treatments* per year
Common Salvinia Sedge	Glyphosate	0.75	4
	Diquat	0.75	4
	Imazapyr	0.5	1

Table 2. 2012 Application details for lower Old River.

Total # of Treatments*	Herbicide	Rate (gal/acre)
8	Glyphosate/Diquat	0.9
	Glyphosate	0.75
	Imazamox/Glyphosate	0.75
	Imazapyr	0.5

Table 3. 2012 Acres treated by vegetation on Old River.

Vegetation	Acres Treated
Common Salvinia	127.2
Sedge	46.8
Alligator weed	24.4
Duckweed	13.6
American Lotus	9.6
Parrots Feather	9
Pennywort	5.4
Total	236

*For reporting purposes, a treatment is defined as one crew for one day.

Physical:

Hard freezes and late freezes have proven beneficial to control in the past.

Aquatic Vegetation Estimates:

Biomass: Fall 2012

Common salvinia (50 acres)

Sedge (25 acres)

Estimate for 2013

Common salvinia (100 acres)

Sedge (50 acres)

Limitations:

- No drawdown capability.
- Cypress and tupelo trees limit access and preclude effective spraying in some areas.
- Surrounding private swamps and low lying areas provide refuge for salvinia.

Recommendations:

Biological Control

If common salvinia weevils are available, stock weevils in associated swamps and sloughs that are not accessible to spraying equipment to address nursery grounds that are perennial sources of re-infestation.

Chemical Control

Assess the lower end in early spring:

If aerial coverage of live common salvinia is greater than 50 %, we will examine the feasibility of conducting a liquid Sonar AS application in May/June at a rate of 30ppb (lower section only). If rainfall warrants, a bump treatment of 5ppb would be made at 28 days after treatment.

If aerial coverage is less than 50%, District 5 spray crews will treat the upper and lower sections in April 2012 using a glyphosate (0.75 gal/acre)/diquat (0.25 gal/acre) mix including Aqua King Plus (0.25 gal/acre) and Thoroughbred (8 oz./acre) surfactants. Sprayers will conduct follow up assessments/treatments monthly, alternating diquat/glyphosate applications with Imazapyr at 0.5 gal/acre.

Follow-up treatments may be spaced further than monthly depending on the success of earlier applications.

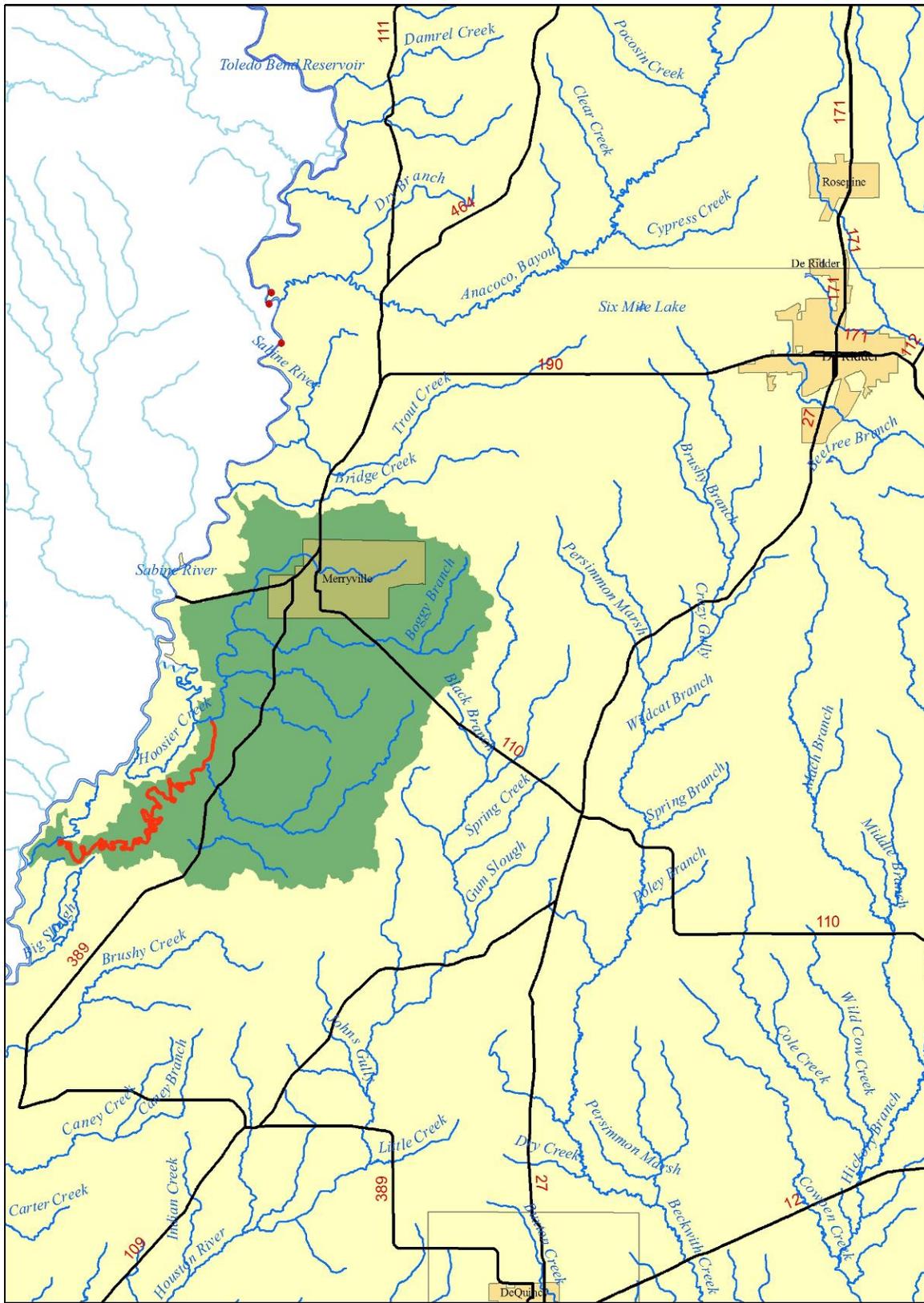


Figure 1. Map of Old River and Old River watershed in Beauregard parish (Scale: 0.5"=3 miles)